MONTHLY

an Joaquin Power

MAGAZINE

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Fresno, California.

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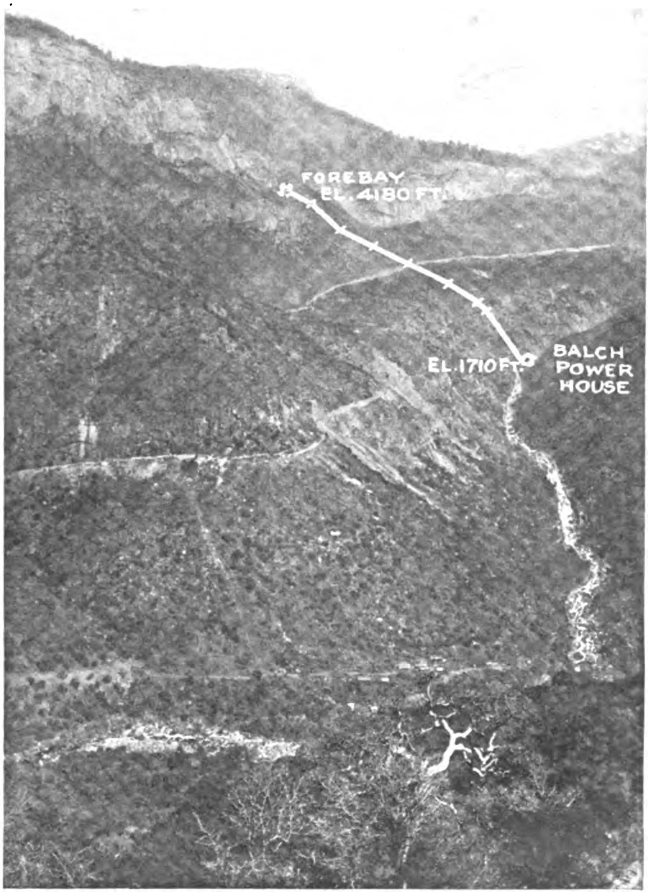
Kings River Project Started

Construction Work on Balch Power House to Begin at Once, is Announcement by General Manager A. Emory Wishon.

ACROSS the very heart of California's great San Joaquin Valley flows a little river of wide fame and big performance. This is Kings River, with its source in the Sierras of great mountains, mighty gorges, and giant trees of the Roosevelt National Park, and its course out across the plains till its last drop of water slakes the thirst of an alfalfa stalk in the fertile fields where once rolled Tulare Lake. Every year the little river attracts thousands of tourists from all parts of the world, for Kings River Canyon, in the high mountains, is not alone a paradise for campers and anglers, but presents a vista of scenic grandeur almost comparable with that of matchless Yosemite. Every year its waters flow out upon the floor of the valley, and there spread through a far-reaching system of irrigation canals to make what was once veritable desert green with prolific and profitable productivity. And to add to its attractiveness and its usefulness, Kings River is soon to yield to the harness of modern progress in the construction of the first unit of a hydroelectric power system that will be spectacular both in construction and operation and which gives promise of unsurpassed efficiency.

The Kings River project of the San Joaquin Light and Power Corporation, planned to develop almost a half million horsepower — 495,600, to be exact — is spectacular because of the extremely high altitude of its storage and the unusually

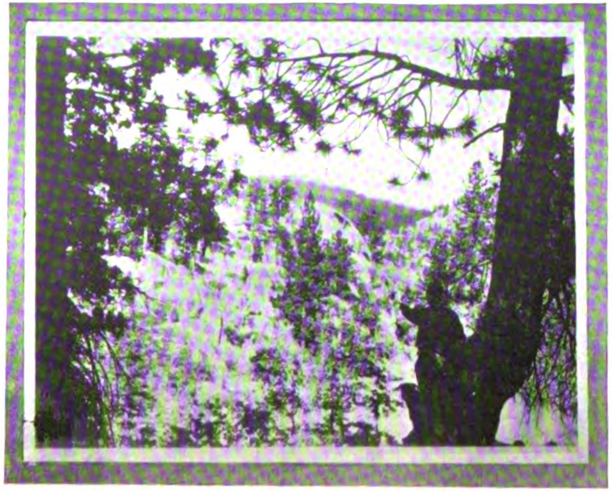


Site of proposed Balch Power House on the North Fork of Kings River.

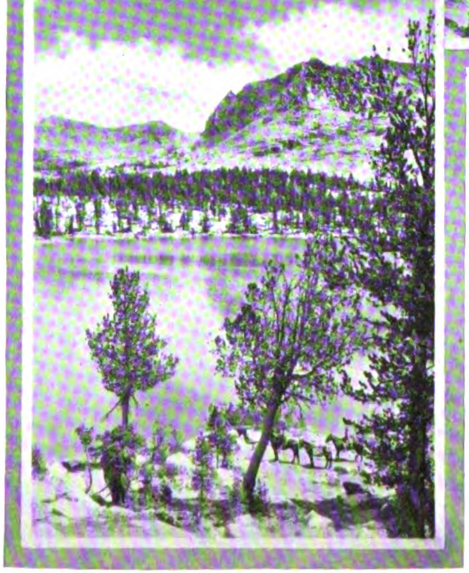
Kings River

Left.—Road cut from granite cliffs of Patterson Mountain.

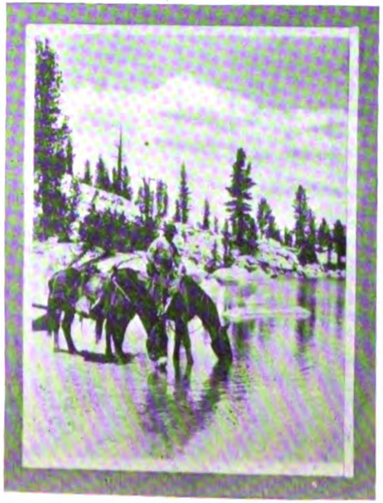
Right.—Dam site of Helms reservoir in upper Kings River.



Engineers point out site for Wishon dam in Coolidge Meadows.



Devil's Punch Bowl and Hell for Sure Pass.



Pack animals stop for a drink.

high heads under which its plants will operate. It will be remarkably efficient because of its possibilities of huge water storage, and its comparatively cheap construction, and particularly because it will deliver its power over a main transmission line only thirty-nine miles long. Engineering surveys began in 1918, and real work has been in progress for more than two years, more than $1,500,000 having been spent in the preliminary construction of roads and transmission line. In 1919 about one hundred engineers were employed over the project area preparing the surveys necessary in presenting applications to State and Federal Commissions.

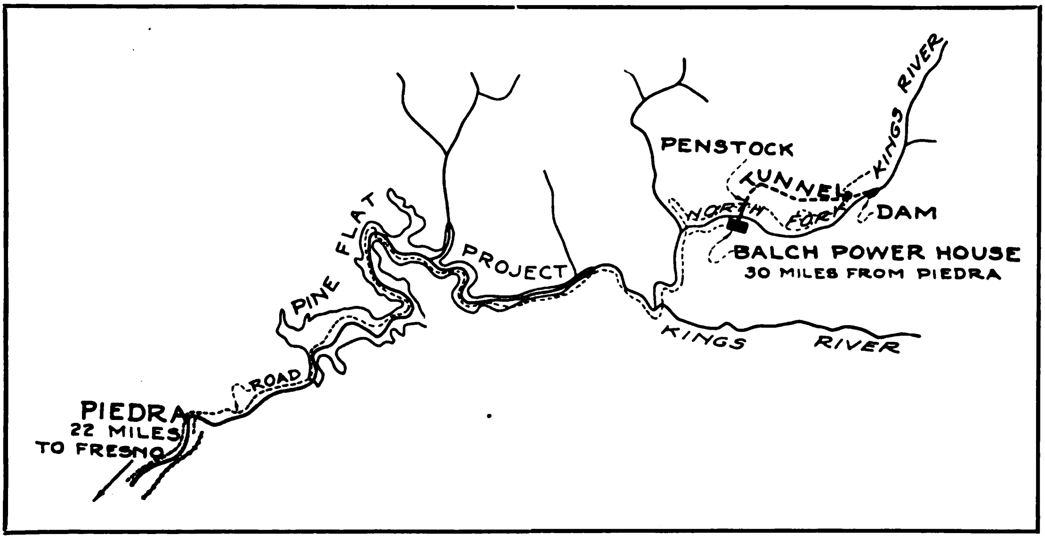
BALCH PLANT TO BE FIRST UNIT

First actual power house installation is to be made at Balch Plant, on the north fork, not far from its junction with the west fork. Instructions to begin work on Balch Power House were given March 25 by General Manager A. Emory Wishon, following several days' conference in San Francisco with Mr. H. P. Wilson, president of the Western Power Corporation of New York, and other officials of San Joaquin Power.

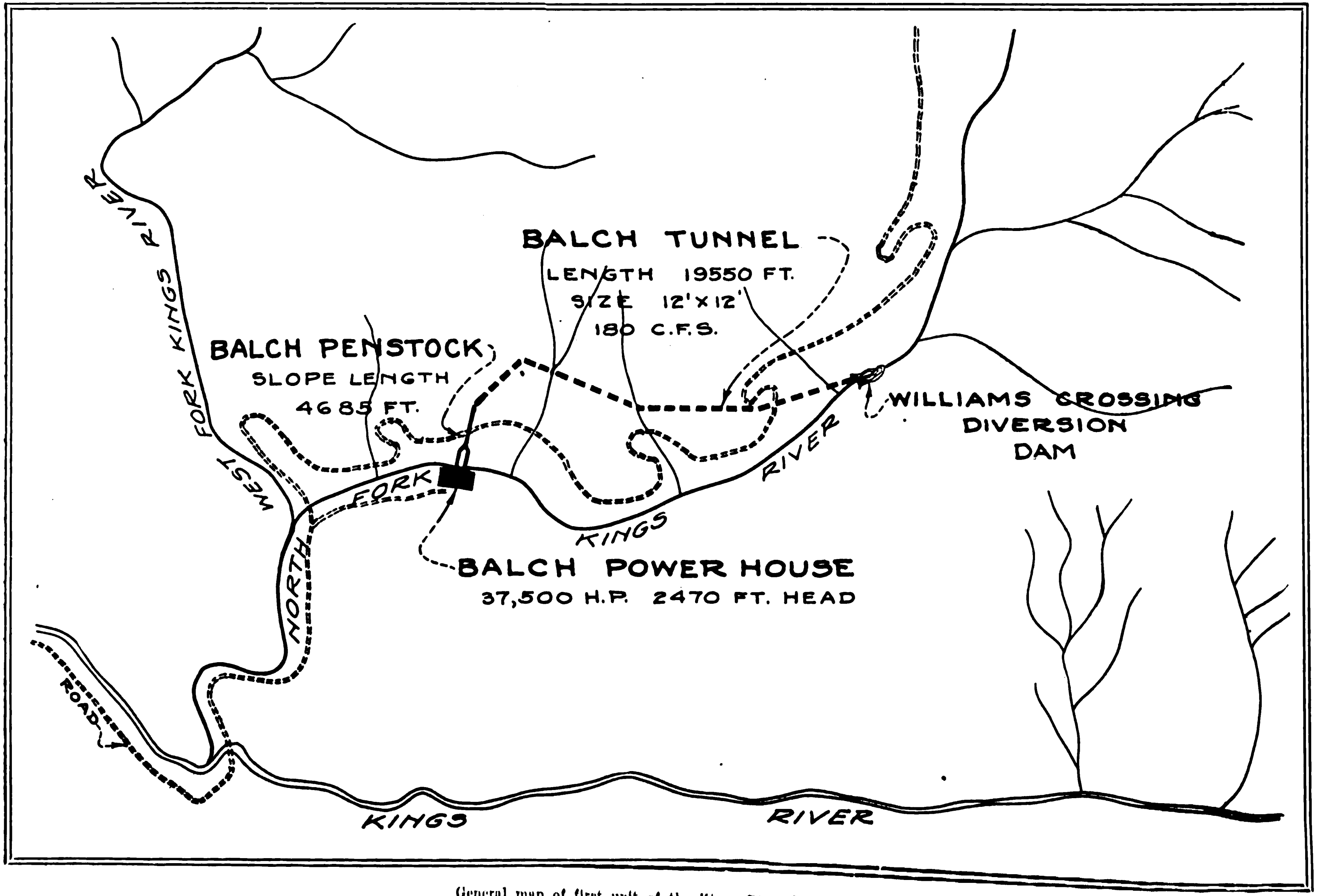
Engineering plans are complete, and orders received by H. K. Fox, superintendent of construction, are to assemble equipment and place a construction organization in the field at once so that the plant will be brought on the line January 1, 1927. Cost of the new power house is estimated at $4,850,000. This plant has been selected for the initial work because of its extremely high head and short tunnel, which offers simultaneously cheap construction and high efficiency. Balch Plant will have a static head of 2,470 feet, the highest in America. To develop this head but 19,550 feet of tunnel must be bored, which will be through very hard granite, requiring without question no lining whatever. One unit is to be installed at a time, each unit having a capacity of 37,500 horsepower. Ultimate installation at Balch Plant will be four units from the North fork and two from the West fork, with a total capacity of 196,000 horsepower.

ROADS BUILT INTO GRANITE CLIFFS

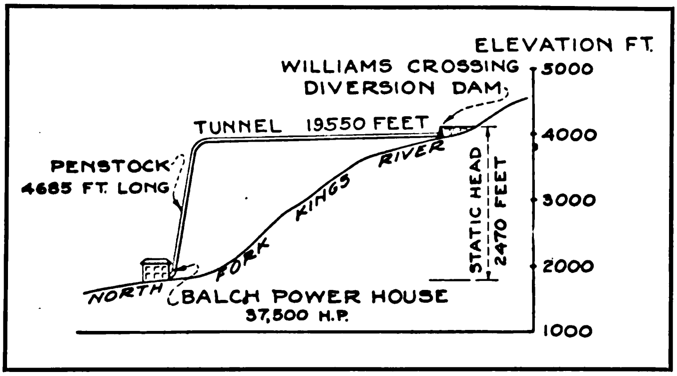
Piedra, a little settlement built around rock quarries and crushers on the river about twenty-five miles from Fresno, is the nearest railroad point. From here it is planned to haul all material to the project over a wagon road. The first thirteen miles of this road is old but well-kept county road, serving foothill ranches and following for much of the distance the old flume of the Sanger Lumber Company. The remainder of the road belongs to the power company, and has been so constructed as to give easy access to all parts of the project. Many sections have been built into the face of solid granite cliffs. Despite all difficult and laborious con-



Balch Power House site is 52 miles by road from Fresno.



General map of first unit of the Kings River Project.



Diagrammatic profile of Balch Power Plant showing stream flow.

struction, the road bed is wide and the grades are easy.

During construction work, this road must necessarily be closed to the public to permit transportation of materials, supplies and men. Upon completion of the project the road will be opened to the public.

It was necessary to bridge the river three times, bridges being built to carry a load of thirty tons. They will hold up the heaviest pieces of the power units. At three places on the road where cliffs were encountered, it was found more economical to build trestles than to make cuts and fills. These trestles, like the bridges, are built to support the heaviest loads that may be hauled in. Many of the heavy pieces of machinery will have to be loaded in huge trailers drawn by caterpillar tractors.

A steel tower, aluminum cable, 110,000-volt transmission line was constructed in 1923 from Piedra to Balch Camp, at the junction of the two streams, a distance of twenty-four and one-half miles. This line now serves power for construction work. It is planned to build another thirteen miles from Piedra to the Sanger substation, at which point the Kings River plants will feed into the San Joaquin system. This will be the main transmission line. Sanger substation is in the very center of the company's system, but thirty-nine miles from the Balch Plant. This short transmission line presents one of the great advantages of the Kings River project.

PERMANENT HEADQUARTERS AT BALCH

Headquarters were established in 1922 at Balch Camp, permanent buildings being constructed, all supplied with running water and electricity for lighting and cooking. Three cottages and several tent houses were built for family quarters, this portion of the camp having a complete sewer system with a septic tank. The camp also includes a large warehouse, bunkhouse, guest house, mess hall, ice plant, and several smaller buildings.

Lumber for camp building and other construction needs is close at hand. On Patterson Mountain, near the center of the proposed chain of power houses and reservoirs, is an excellent stand of timber. There is also a good stand of pine in the basin of the Lake Wishon site. A small mill is to be installed and this timber will be cut and used as necessary.

PROJECT LINKED WITH VALLEY'S FUTURE

Power development in California demands planning far into the future. The San Joaquin Company with its present capacity of nearly 190,000 horsepower in hydro and steam, is able to take care of all present demand. Hard hit by the drought of 1924, the company was nevertheless able to go through the year without any curtailment of service. But the territory it serves is increasing rapidly in population, and no section of California is richer in promise of development. Here lies the state's great back-country of farm land which must come rapidly into intensive cultivation and upon which the growth and prosperity of an essentially agricultural state largely depends.

Demand for electricity is progressing on a curve of pronounced upward tendency. It is a comparatively simple matter to figure just when existing capactiy will be absorbed and additional plants must be brought into operation. Within another year the Merced Plant at Exchequer is expected to be ready to deliver, and this will add 25,000 horsepower. But the great load of the future will be taken care of by the nearby plants on Kings River, feeding into the very heart of the system.

Arteries of Progress and Prosperity

Power Lines Shown on Picture Map Tell Story of Development of the San Joaquin Valley.

ON the center pages of this magazine is shown a birds'-eye view of the San Joaquin Valley and Coast country served by San Joaquin Power and the Midland Counties Public Service Corporation.

The transmission lines feeding this productive territory are arteries of progress and prosperity, carrying power,—the life blood of industry,—to more than seven million acres of fertile land, dotted by 147 towns and cities. Nowhere on earth is there an area in extent and productive possibilities such as is shown by this map.

In this territory reside 400,000 people, less than one-tenth of the total population of the State. Yet more than one-third of California's agricultural wealth lies in this great valley and in the many smaller valleys of the Coast country. Approximately 31 per cent of the oil produced in California comes from the oil fields bordering these valleys. Great quantities of natural gas from these fields are piped to the cities of southern San Joaquin Valley and to Southern California.

Surrounding the productive agricultural lands are mountain ranges, rich in ore and extensive timber stands, while thousands of small streams, fed by 300 miles of snow-capped mountain ranges, join to form six major rivers contributing to irrigation and power,—the Merced, San Joaquin, Kings, Kaweah, Tule and Kern.

Nature lavished her favors on this particular land. The mountains to the east, unsurpassed in scenic grandeur, and the ocean to the west, matchless in the beauty of its beaches, invite those who tire from toil to find rest and recreation. Both work and play are provided here in abundance.

A NEW EMPIRE

And all this great empire is new. Men who count themselves relatively young tell of roaming antelope herds, vast stretches of wild, unbroken country, and small struggling settlements where life was hard and rough. Settlement has been rapid, and the achievements phenomenal, yet this great valley, with its smaller valleys and surrounding mountains, are far from being developed. It is estimated that more than three million population will ultimately find homes and prosperity in the Valley.

Of all the forces and influences that have contributed to the transformation of the San Joaquin Valley, irrigation and electricity rank as the two most potent. Canals that carry the waters of the mountain streams and power lines that operate thousands of pumping plants are converting vast stretches of desert into gardens.

The use of electricity in pumping water for irrigation has solved many farm problems. According to a recent survey made by the agricultural experts of the San

Electric pumped irrigation is producing bumper crops where a few years ago was only desert.

Joaquin Light and Power Corporation, the cost for electric power in producing crops in the company's territory, and operating machinery to process these products, ready for the markets of the world, ranges from less than one per cent to five per cent of the market value, the figures being based on pounds, tons, or bales. This survey includes the cost of planting and irrigating of crops, processing and packing of fruits, pumping oil by electricity, growing of alfalfa, operating feed choppers, milking cows by electric machines, sterilizing milk cans, and manufacturing butter and milk products, such as casein, powdered buttermilk and sugar of milk; planting and growing of cotton, ginning of cotton, and manufacture of cotton seed oil and stock feed.

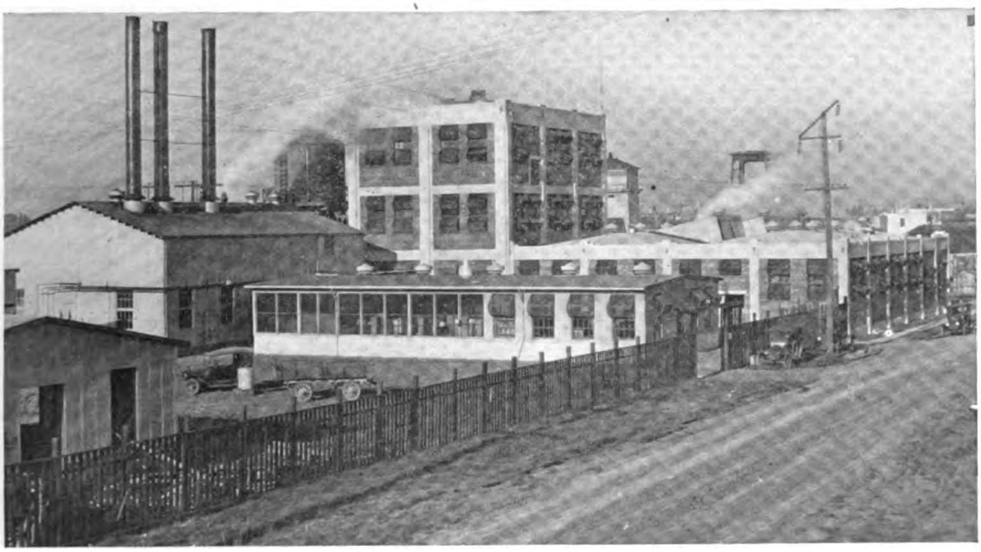
ELECTRICITY ON THE FARM

The use of electricity on the farm is an accomplished fact in the San Joaquin Valley. The rapid development of electrical appliances has lifted burdens from the housewife, and made easier many chores around the farm. The family washing is done by electricity. Meals are cooked, water is heated, and sewing machines and cleaners are operated by electricity; the electric fan and hair curlers are known in nearly every home, and coffee percolators, toasters and waffle irons are steadily becoming more popular.

In the development of manufacturing in the territory, electricity has also played a very important part. Approximately 300 industrial plants have in one year totalled more than $150,000,000 in products. Packing and processing of fruits hold the leadership. The Sun-Maid Raisin Growers of California have fourteen packing plants and twelve stemming plants, electrically operated, and about 25 delivery plants, also with such electric equipment as is necessary. There are also a number of independent plants. The California Peach and Fig Growers, Inc., are substantial power consumers, having seven processing and packing plants, and more than a dozen receiving stations. The new raisin syrup plant of the Sun-Maid Raisin Growers, to be located in Fresno, is to be operated by electricity.

LAND OF DIVERSIFIED PRODUCTION

With agriculture have come industry, manufacturing, and population. Industries of the San Joaquin Valley are as varied as the natural resources. Agricultural products range from sub-tropical fruit to staples of the temperate zone. To list them would mean to catalog practically every product grown in the United States. There are, however, certain crops that find unusually favorable conditions in the sunshine, soil, and long growing season here. Grapes, figs, peaches, olives, melons, cotton, grain,



A fifty-million dollar dairy business in the San Joaquin Valley maintains several excellent milk products plants, one of which is shown here. It is the Golden State Milk Products Co. at Los Banos.

alfalfa, and winter vegetables grow in abundance in every part of the floor of the Valley, while citrus fruits and apricots are most productive in the foothills and bench lands.

This wide variety of agricultural products, together with dairying, beef cattle and hog raising, has developed a wide diversity of industries depending on them. Milk, cream, and milk products hold first place, with dried fruits, fresh fruits, and grain following in the order named. Cotton, the latest crop to receive consideration in the San Joaquin Valley, is being accepted as one of the staple sources of income, and gins, cotton seed oil mills, compress plants and other cotton product mills are rapidly springing up.

The dried fruit plants for processing and packing raisins, peaches and figs represent the largest investment in plants of any food industry. Thousands of people find work in these plants, and large cities have grown up around these fruit processing centers.

EXTENSIVE CANNERIES

Canning of vegetables and fresh fruits represents a tremendous investment of capital and gives employment to thousands during certain seasons of the year, with a huge payroll. The output is annually worth millions. The California Packing Corporation, with its widely known Del Monte brands, has four vegetable and fruit canning plants; Libby, McNeil and Libby of Chicago have two, and the California Co-operative Canneries have two. The Herbert Packing Company, the Kings County Packing Company, the Geo. H. Hume Company, the Pratt-Lowe Company, the Pacific Pea Packing Company, and many others are in the field, some handling diverse products, some handling but one, such as raisins, preserved figs, canned olives, condensed milk, etc.

NEW CEMENT PLANT AT MERCED

Another new industry in Merced County is a proposed plant to convert large bodies of limestone and clay into Portland cement. The extensive use of cement in the San Joaquin Valley assures a market for this necessary building material, while comparatively low freight rates to Valley points and an abundance of power and fuel oil give the mill an advantage that assures success.

The manufacture of cement pipe for irrigation is another important industry, nearly every city having one or more plants. Electric motors are used in the mixing operations.

Clay products of pottery, brick, and tile

Yosemite Portland Cement Company plant in course of construction at Merced.

are other building materials manufactured in the Valley requiring electric power and crude oil in quantities. The largest clay products plant is at Merced, where materials especially adapted to this work are obtainable. Tile, brick, and other clay products from this plant are shipped to all parts of the West.

Tile from Merced is shipped all over the State.

THREE PUMP FACTORIES

The development of irrigation by pumping from deep wells, or from rivers and ditches, has brought a healthy demand for electrically driven pumps. Fresno has three pump factories, and there are three others in the Valley. One-third of the 6,000 electrically operated pumps in use in the territory are the product of home manufacture. Fresno-made scrapers are known the country over, where farm land is being leveled or irrigation ditches constructed. The Lisenby Company of Fresno manufactures and ships multi-color printing presses to fifteen countries of the world. It has done in one year a million dollar business. Modern ice manufacturing plants in all parts of the Valley are among the largest users of electric power.

The manufacture of ice cream is another million-dollar business. Soft drink bottling works are scattered all over the Valley.

MOUNTAINS RICH IN TIMBER

The extensive timber lands have long been a source of valuable lumber. Mariposa, Madera, Merced and Fresno counties have large mills from which lumber is being shipped to the markets of the Coast. Sugar pine from the Sierra Nevada mountains finds a ready market for many special uses, while stands of redwood, spruce, and fir will supply the mills for many years to come. Government surveys show that 30 billion board feet of timber is standing in three forest reserves adjoining the San Joaquin Valley while seven and one-half billion feet are standing in timber lands privately owned. Electricity is being used extensively and with marked success in logging operations.

Logging by electricity at Central Camp of Sugar Pine Lumber Co.

Mining large bodies of low grade ore by modern electrically driven machinery is proving profitable, especially in Mariposa county, where millions have been taken from the famous Mother Lode.

Some of the finest granite found in the State is quarried at Raymond in Madera County. Electric power is used for the greater part of this work. Other rock suitable for building purposes is found at many points in the mountains.

More than 3,000 oil wells are electrically pumped in five oil fields served by San Joaquin Power and Midland Counties Public Service Corporation. The fields are Kern River and Midway in Kern County, Santa

Celite Products Company quarries of diatomous rock near Lompoc.

Maria in Santa Barbara County, Edna in San Luis Obispo County and Coalinga in Fresno County. During 1924 it is estimated that 20 million barrels of oil were pumped in this territory requiring 26,175 horsepower in connected load.

VALUABLE MINERALS IN COAST COUNTIES

In the Coast territory served by Midland Counties Public Service Corporation are many important industries that are depending on electric power for their operations. Large diatomous deposits resembling chalk and useful in the manufacture of tooth pastes, polishes, insulating compounds and fire brick, are found in Santa Barbara and San Luis Obispo Counties, the most important being the Celite Products Company properties near Lompoc. Lime, clay, and other minerals are known to exist in quantities, providing industrial possibilities that offer new fields for the use of electric power in this section. Electric pumping for irrigation is growing more extensive in the rich valleys along the coast, while the Santa Maria and Edna oil fields are large consumers of electricity for pumping oil.

Practically one-third of the crude oil produced in California comes from the San Joaquin Valley.

The flourishing cities of the Coast country are heavy users of electricity, while the growth of manufacturing with the increasing population and development of the natural resources assures an increasing demand for power.

LAND OF OPPORTUNITY

This brief sketch conveys only a faint idea of the wealth and resources of the territory served by San Joaquin Power and the Midland Counties Public Service Corporation. A month's automobile tour would give an observer merely a glimpse of the high spots. There is room aplenty here for the man of vision and industry. The surface of the land and of opportunity has only been scratched. Time and industry will unfold the wealth and prosperity that await the millions of population to come.

Much of the success of the Valley's future depends on San Joaquin Power service. The company is now better than ever equipped to continue that service until the ultimate development has been achieved.

Making the Landscape Green

How a Dreamer Made His Dreams Come True and by the Magic of Electricity Turned Brown, Arid Plains into a Fertile Garden.

IT was a typical San Joaquin Valley September day, the thermometer hovering around the 100 mark, the heat waves quivering over the dry wastes of grain stubble as far as the eye could reach. A stocky, ruddy-faced, well-knit man stopped on the side of a hill rising from the stream bed of the Kaweah River a few miles back of Lindsay, and turned his face to the West. With him was a boy of twelve, tired and evidently disgusted with the whole expedition. Seating himself on a piece of shale and fanning himself with a battered straw hat, the boy looked up at his father with a trace of disapproval on his face.

"What are you going to do, dad?"

His father waved his arm across the torrid landscape. "Make it green, son, all green."

The son gave a forlorn look at the expanse of brown and gray. It was not an alluring scene, the view from this hillside thirty years ago. Just how his father purposed changing the color scheme of countless thousands of acres stretching before them was not made exactly clear to the youth. It was not, in fact, entirely clear to the father. He saw only the job there before him. "It must be done," he mused, half to himself.

WATER WAS LAND'S NEED

The man standing on that hill back of Lindsay was A. G. Wishon, then in the real estate business at Visalia; the boy, his son, A. Emory Wishon. The grain crop of 1894 had been only fair and money was scarce in the wheat section. Grain, in the estimation of A. G. Wishon, offered a poor outlook for the development of the country. The soil was good and favorable climatic conditions gave promise of more profitable crops, if water could be placed on the higher lands above the level of the river. Wishon had a plan to place water on the land, and by his plan he hoped to change the brown wheat stubble to green orange groves and vineyards.

The scheme that occupied the attention of father and son 30 years ago, would be relatively simple today. Roughly, it consisted of the construction of a dam across the Kaweah River, diverting the water through a tunnel and over water wheels to generate electricity and use that electricity to operate pumps 15 or 20 miles away. The water for irrigation was under the ground—that was proven—the river had the power, so all that remained to do was to connect the power of the stream with the water underground. It had been demonstrated that electricity could be transmitted 25 miles, but that was conceded by engineers of that day to be the limit.

MONEY WAS SKEPTICAL

Such a scheme as Wishon proposed had never before been tried and its accomplishment was doubtful in the opinion of many hard-headed business men, those who had money to lend or invest being most skeptical. The cost of the project was estimated at $150,000. However, certain Pasadena capitalists agreed to back the venture and work was begun.

But the plan was doomed to failure. Because the art of electrical transmission had advanced more rapidly than the construction of the plant, it was discovered that more power could be developed at a lower cost by extending the transmission line into the hills ten miles further to a more favorable power site. The Pasadena capitalists took alarm at this new proposal, and dropped the whole scheme. And thus it died, sections of the old flume and tunnel still standing as mute evidence of little faith.

FIRST POWER HOUSE BUILT

With a reputation blackened by failure, the dreamer began anew the task of changing the landscape from brown to green. This time he was more successful and actually built and placed in operation the first power house on the Kaweah River, Power House No. 1 of the Mt. Whitney Light and Power Company. Money for this undertaking was obtained from London through John Hays Hammond, famous mining engineer, who was also one of the heavy stockholders. The new plant worked satisfactorily and was generating 1,800 horsepower, but the farmers were slow to use electricity for irrigation pumping. The brown landscape remained as brown as ever; the vision of the green fields was yet to be made a reality.

The company had a surplus of power but few customers. The farmers had not been "sold" the electrical idea. So $25,000, obtained from San Francisco bankers, was invested in motors and pumps, and farmers were invited to put them in on trial. If they were satisfactory, the cost of the installation could be paid for in five years. If not satisfactory, the plants could be returned. The work of the power sales department, composed of Mr. A. G. Wishon, was reduced to the relatively simple job of showing a plant in operation and permitting the farmer to throw the switch, see the wheels turn and the water flow. It was a busy season, and a successful one.

SAN JOAQUIN COMPANY STARTED

About three years later a change in the affairs of the Mt. Whitney Company was followed by a change in management and Mr. Wishon began another work that has occupied his entire time since 1903. He became manager of the San Joaquin Electric Company of Fresno, purchased by A. C. Balch, Wm. G. Kerckhoff and others interested in power development.

When Mr. Wishon took charge of the old San Joaquin Electric Company, it was in the hands of a receiver, the property was run down, the chief source of power being a 1400-horsepower plant on the north fork of the San Joaquin River. A 1000-horsepower steam plant in the city of Fresno was the standby. Interruptions were frequent and the use of power on farms was unknown, service being confined to the city of Fresno, with a line to Hanford, where power was sold wholesale.

Again Mr. Wishon applied himself to the job of changing the brown wastes into green fields. The company prospered under his management, with the result that the green carpet has been spread out for hundreds of miles as the power lines have been extended. The small beginning of a dozen pumping plants pioneered in Tulare County in 1894 has grown to more than 6,000 plants using 74,700 horsepower, irrigating 480,000 acres of land.

The one-man organization consisting of A. G. Wishon as manager, bookkeeper, construction boss and salesman has grown to an organization of a score of executives directing 1,680 employees.

The boy of 12, seen in the picture of 1894, has become a man of 43, growing up with the business and absorbing the vision of his dad,—to make the desert green. Working his way up from lamp trimmer, lineman, power house operator, salesman, district manager and assistant general manager, he was made general manager in 1920. Step by step he has studied the business under the guidance of his father and associates. He pioneered the use of electricity for oil pumping, installing the first motorized oil-well pump in Coalinga. He organized and developed the Coalinga Light and Water Company, which was later developed into the Midland Counties Public Service Corporation, with lines extending to the cities of Paso Robles, San Luis Obispo and Santa Maria. As general manager he has carried on the work and policies that have built San Joaquin Power. With A. G. Wishon as president of the company and A. Emory Wishon vice-president and general manager, there is every promise that the remaining brown landscape will become more green each year until the great inland empire of the San Joaquin Valley has reached its ultimate development.

The green carpet spreads as the power lines extend into the desert wastes.

Employees Are Busy, Ambitious Family

Half of Organization's Personnel Taking Educational Course; Company Participates in Mutual Benefit Plan.

EDUCATIONAL, social and recreational activities play an important part in the San Joaquin Power and Midland Counties organization. The co-operative spirit and good fellowship developed by meetings are cementing the employees into a better working entity and have earned for the organization the name of San Joaquin Power Family.

An illustration of the desire on the part of employees to learn more about their work and the company was recently given when more than 50 per cent of employees on the system enrolled in an educational course given by the management under the direction of an educational committee headed by F. V. Boller, assistant manager of the commercial department. Out of 1,354 possible employees, eliminating those who because of location or occupation can not attend, 634 have signed to attend classes. In addition, 50 employees of the Bakersfield Steam Plant do not attend classes but receive the lessons and take the examinations. Classes are being conducted in all districts.

EDUCATIONAL CLASSES WELL ATTENDED

This educational plan grew out of a course given two years ago to about a dozen department heads and six members of the Public Relations department who were preparing to undertake a house-to-house survey of electrical consumers. So successful did this training prove at that time that the management decided to open the classes to any member of the organization who cared to participate. The large enrollment is testimony not only of employees' loyalty to the company but of their ambition to improve their own opportunities. The course in itself consists of eight lessons dealing with every phase of organizational work and activities with the exception of accounting, and is divided as follows:

History and Policy of the Company,
Elementary Electricity,
Finance and Stock Sales,
Regulation and Rate Fixing,
Rates, Rules and Regulations,
Salesmanship,
Publicity and Advertising,
Organization and Operation of Departments.

The lessons not only familiarize employees with their own organization and fit them for advancement, but enable them to answer and explain intelligently questions asked by consumers, thus making for better public relations.

SAFETY AND FIRST AID IMPORTANT

Education in first-aid practices, safety first, and accident prevention is being carried on in all districts under the direction of a district accident prevention committee, with a central committee in Fresno. This work was started with a series of lectures and demonstrations by representatives of the State Bureau of Mines, assisted by power company men. At the present time, Buford Babbs, instructor in safety practices, is organizing first aid teams in all districts, special attention being given to resuscitation from electrical shock. Later in the year a representative team will be chosen to compete in the State First Aid Meet. In the State competition last year the first aid team from San Joaquin District was awarded seventh place. District accident prevention committees pay particular attention to proper safeguarding of equipment and analyzing of accidents to determine and remove the cause. Many forms of publicity are used to develop interest and give information on this work. Safety posters on all bulletin boards, literature and a safety and first-aid supplement to the company magazine call the attention of all employees to the necessity of safety first and always.

MUTUAL BENEFIT ASSOCIATION REVISED

Fostered by the Fresno employees' club, a Mutual Benefit Association was organized about two years ago, which provided for small salary deductions, ranging from 25 cents to $1.50, to be paid into a fund. In the event of sickness of any member of the association, 35 per cent of medical expenses are paid by the Mutual Benefit

Fund. The second report of this association showed 975 members in all districts. During the first two years of operation, $3,087.23 in claims were paid to 213 claimants, leaving a surplus of $2,800. So great an interest is being taken in the benefit plan that the present association is being revised to provide participation by the management and to make the benefits greater and more far reaching. Dues in the new association will be 20 per cent of one day's wages per month. The management will pay into the treasury an amount equal to the surplus now in the Mutual Benefit Fund and each month will pay an amount equal to the dues collected. Benefits paid by the association will be 35 per cent of all medical expenses, and in addition two-thirds of salary or wages will be paid during disability for a period not to exceed twenty-six weeks. This plan will be of particular benefit to day employees, who formerly received no compensation in case of sickness or non-industrial accidents.

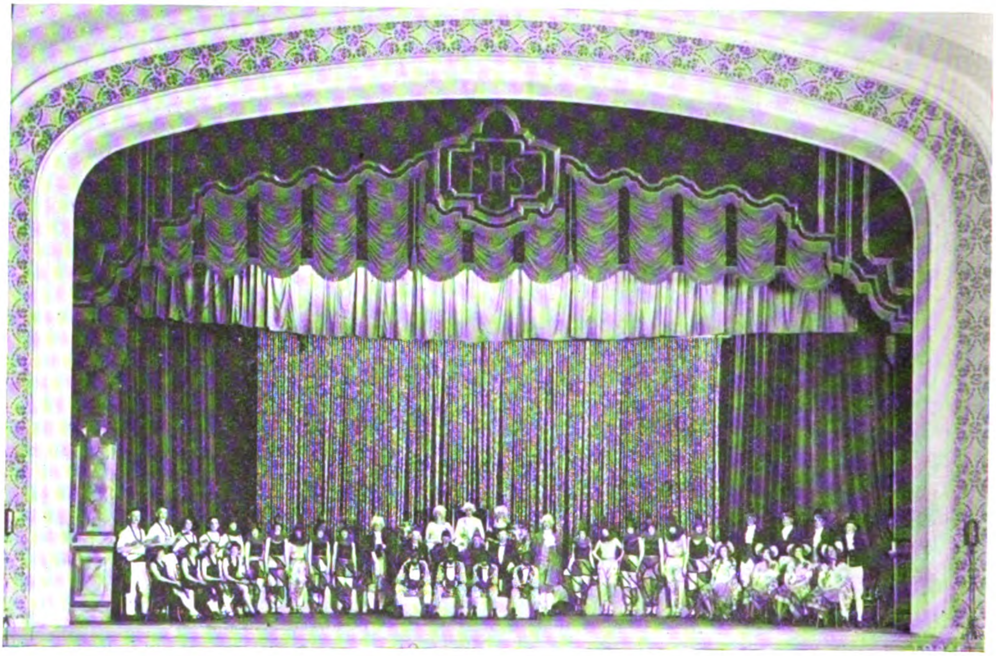
In addition to receiving care during illness or accident, all permanent San Joaquin Power employees are insured by the company. This life insurance is on a graduated scale, ranging from $1,000 for the first year to $1,500 for all over the fifth year of service.

EMPLOYEES' CLUBS ACTIVE

Social activities of employees are fostered by employees' clubs in all districts. These activities include monthly dances and parties in most districts, with occasional special events such as picnics, barbecues and theatrical performances. The annual show staged by the Fresno club is an outstanding event. Employees from all over the system and many of the public attend this affair, the usual attendance being approximately two thousand.

Another event attended by all districts is the annual barbecue and picnic of the Fresno club. The management's Christmas party is the big event of the year, each member of the San Joaquin family making a special effort to attend. Invitations are extended to all employees and their families.

Recreation is also carried on under the auspices of the district clubs. Baseball, basketball, football and bowling teams compete with local outside teams and with other districts. Intra-district golf matches have received a good deal of attention in the past year.



The last Stage Frolic and Revue of the Fresno Power Club, a very creditable production, drew a crowd of 1,800 at the High School Auditorium.

Vast Power Resources Made Available

Affiliation With Great Western Means Tie-In Transmission Line That Will Benefit Both Companies.

THE intimate relationship of the San Joaquin Light and Power Corporation and the Great Western Power Company of California, existing through their joint control by the Western Power Corporation of New York, has an important economic bearing on the two companies as well as on the electrical industry of the State as a whole.

Interconnection of the two systems by means of a high-voltage transmission line is to be shortly undertaken. This will permit an interchange of power that will obviously work to the advantage of both companies. A better load factor will result, thereby reducing the margin of reserve capacity in plants necessary to supply adequate service, and lowering fixed charges on the investment necessary to serve. Other economies and improvements in service are expected to result from the connection. The proposed line will begin at Brighton, five miles east of Sacramento, and will be from 105 to 115 miles long, depending upon its San Joaquin terminus, which has not yet been determined.

INDUSTRIAL LOAD GROWING

The San Joaquin Light and Power Corporation serves approximately 69,000 electric consumers, while the Great Western Power Company is serving 46,700. A comparison of the connected loads of the two companies shows that Great Western Power serves 311,470 horsepower as against 337,000 horsepower on the San Joaquin system. The heavy industrial load of Great Western Power in the large centers of population, amounting to 155,219 horsepower, is approximately 50 per cent of the total load of that company. San Joaquin Power's industrial and commercial power load amounts to 60,000 horsepower, while the agricultural pumping power in the San Joaquin Valley during the summer months causes a high peak at a time when power is plentiful in the north, while the heavier winter demand in the north can be supplied from San Joaquin surplus during the winter run-off in the Sierra Nevada Mountains.

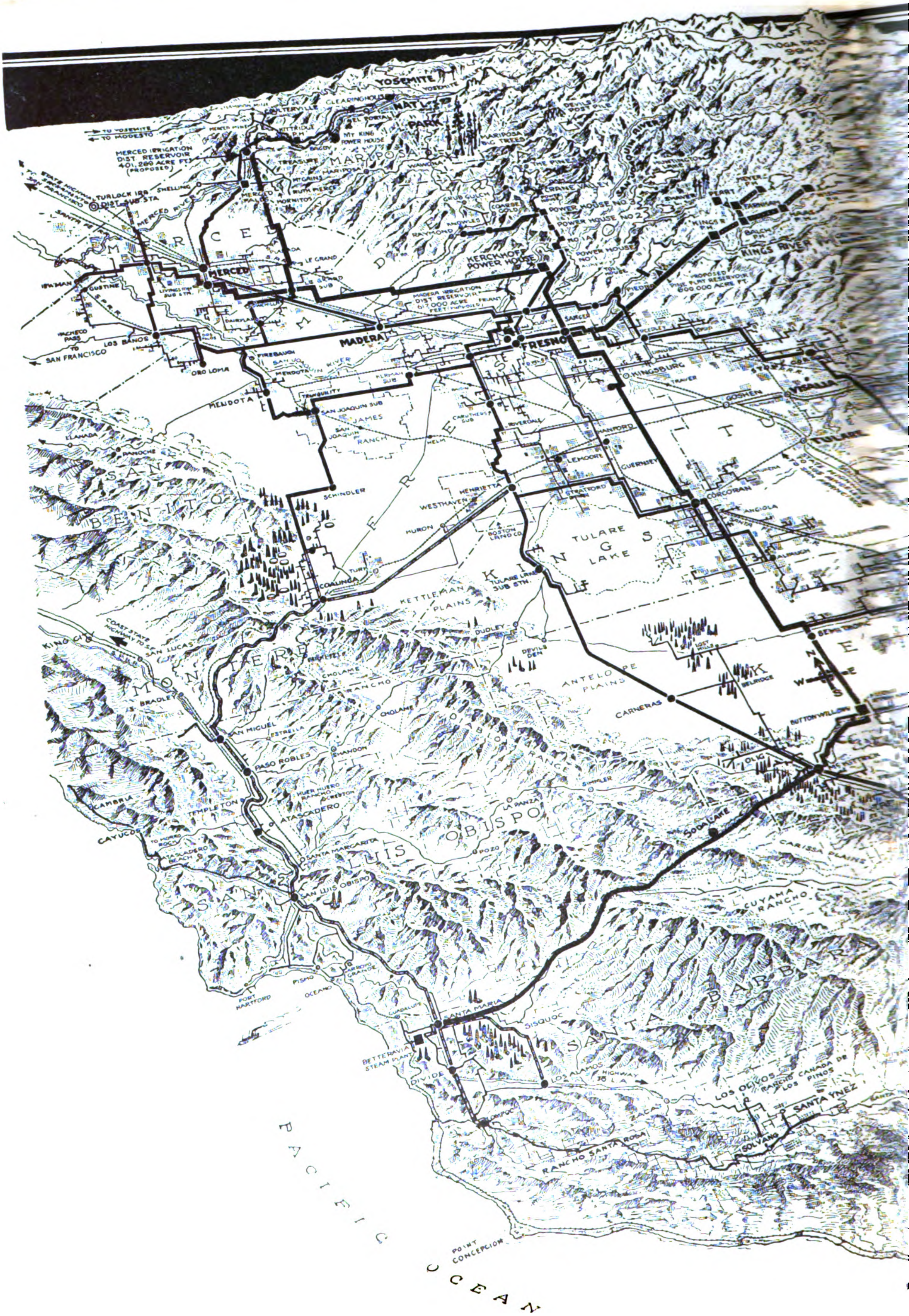
KINGS RIVER DEVELOPMENT

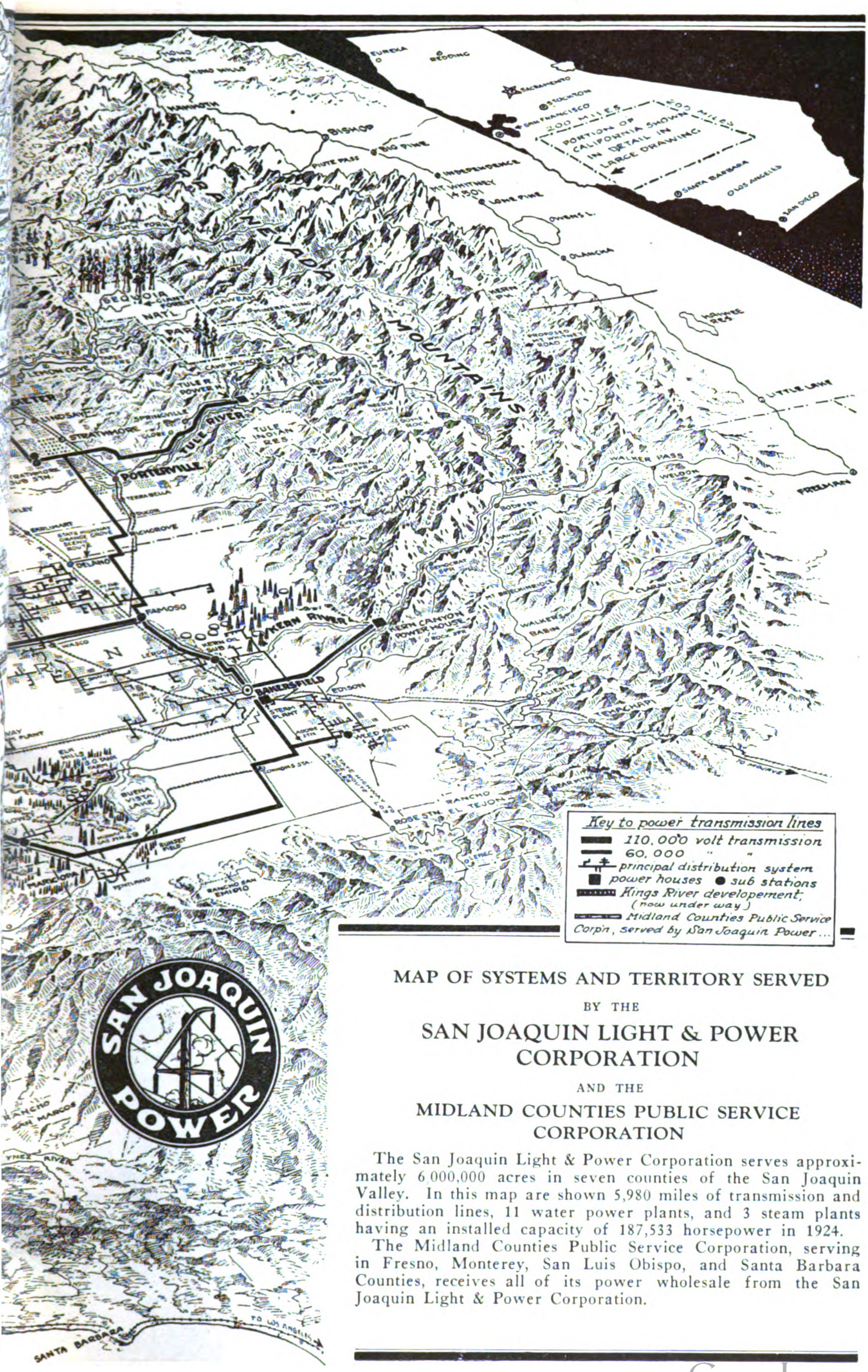
The ultimate development of the Kings River Project of the San Joaquin Light and Power Corporation will provide approximately 500,000 additional horsepower at a relatively low cost of development to meet the demands of both systems, while the Great Western hydro-electric properties on the north fork of the Feather River, having an ultimate capacity of 800,000 horsepower, are also available for the service of San Joaquin Power. The Kings River Project and other existing hydroelectric plants of San Joaquin tied in with the Feather River Project of Great Western Power will provide a potential hydroelectric capacity of 1,600,000 horsepower to supply the demands of that tomorrow when California's population shall have multiplied four fold.

STATE-WIDE BENEFIT

This interconnection will benefit the state as a whole. It increases the capacity of the connecting link between the northern and central California hydroelectric power developments. Had such a tie-in been in existence during the recent dry year, a considerable block of power could have been delivered from the Feather River plants to Southern California over the San Joaquin system. Such a tie-in will make it possible to sell great blocks of power not needed in one section but easily salable in another section. Not only does this apply to San Joaquin Power and Great Western Power, but to other companies of the state as well. Interconnection will permit the most economical operation of the plants on each system to supply the existing load and a greater diversity in the use of production and transmission equipment.

The increase in the number of electrical kitchens may be traced solely to a desire on the part of the homekeeper to do things better,—with more comfort and in many cases more economically.


YOSEMITE
YOSEMITE VALLEY
NAT'L
PARK
CLEARINGHOUSE
COULTERVILLE
EL PORTAL
KITTRIDGE P.H.
MT KING POWER HOUSE
BAGBY
MERCED FALLS
TREASURE
MARIPOSA
MT GAINS
HORNITOS
WAWONA
MARIPOSA BIG TREES
DEVILS POSTPILE
TIOGA PASS 9941
SAN JOAQUIN RIVER
HUNTINGTON LAKE
THE PINES
CRANE VALLEY
GRUB GULCH
COARSE GOLD
RAYMOND
KNOWLES
POWER HOUSE NO 3
POWER HOUSE NO 2
NO 1A
POWER HOUSE NO 1
TOLL HOUSE
KERCKHOFF POWER HOUSE
PIEDRA
PROPOSED PINE FLAT RESERVOIR 600 000 ACRE FT.
KINGS R. P.H.
BALCH P.H.
KINGS RIVER
→ TO YOSEMITE
← TO MODESTO
MERCED IRRIGATION DIST. RESERVOIR 401,260 ACRE FT. (PROPOSED)
STATE HIGHWAY TO SACRAMENTO SAN FRANCISCO
TURLOCK IRR. DIST. SUB STA
SHELLING
MERCED RIVER
SANTA FE
M E R C E D
MERCED
LE GRAND
LE GRAND SUB
NEWMAN
GUSTINE
S.P.R.R.
LIVINGSTON SUB STA.
DAIRYLAND
M A D E R A
MADERA IRRIGATION DIST. RESERVOIR 617,000 ACRE FEET (PROPOSED)
FRIANT
MADERA
PACHECO PASS
LOS BANOS
TO SAN FRANCISCO
ORO LOMA
FIREBAUGH
SAN JOAQUIN RIVER
MENDOTA
KERMAN SUB
TRANQUILITY
SAN JOAQUIN SUB
JAMES
SAN JOAQUIN RANCH
HELM
CARUTHERS SUB
CLOVIS
SANGER
FRESNO
REEDLEY
SELMA
DINUBA
KINGSBURG
TRAVER
GOSHEN
VISALIA
TULARE
RIVERDALE
HANFORD
LEMOORE
GUERNSEY
STRATFORD
CORCORAN
ANGIOLA
F R E S N O
T U L A R E
LLANADA
PANOCHE
SAN BENITO
SCHINDLER
HENRIETTA
WESTHAVEN
HURON
BOSTON LAND CO.
TULARE LAKE
K I N G S
COALINGA
TULARE LAKE SUB STA.
KETTLEMAN PLAINS
DUDLEY
DEVILS DEN
LOST HILLS
BELRIDGE
ANTELOPE PLAINS
CARNERAS
BUTTONWILLOW
K E R N
KING CITY
COAST STATE HIGHWAY TO SAN LUCAS
M O N T E R E Y
BRADLEY
SAN MIGUEL
ESTRELLA
CHOLAME
SHANDON
PASO ROBLES
TEMPLETON
HUER HUERO RANCHO
CRESTON
ATASCADERO
CAMBRIA
CAYUCOS
TO MORRO ROCK
CASCADERO BEACH
SANTA MARGARITA
LA PANZA
SIMMLER
POZO
SAN LUIS OBISPO
SODA LAKE
CARRISSA PLAINS
CUYAMA RANCHO
PISMO
OCEANO
ARROYO GRANDE
PORT HARFORD
GUADALUPE
SANTA MARIA
BETTERAVIA STEAM PLANT
SISQUOC
SANTA BARBARA
DIVIDE
LOS ALAMOS
HIGHWAY
LOMPOC
LOS OLIVOS
RANCHO CANADA DE LOS PINOS
SANTA YNEZ
SOLVANG
RANCHO SANTA ROSA
POINT CONCEPCION
PACIFIC OCEAN



MAP OF SYSTEMS AND TERRITORY SERVED

BY THE

SAN JOAQUIN LIGHT & POWER CORPORATION

AND THE

MIDLAND COUNTIES PUBLIC SERVICE CORPORATION

The San Joaquin Light & Power Corporation serves approximately 6,000,000 acres in seven counties of the San Joaquin Valley. In this map are shown 5,980 miles of transmission and distribution lines, 11 water power plants, and 3 steam plants having an installed capacity of 187,533 horsepower in 1924.

The Midland Counties Public Service Corporation, serving in Fresno, Monterey, San Luis Obispo, and Santa Barbara Counties, receives all of its power wholesale from the San Joaquin Light & Power Corporation.

San Joaquin Power
MONTHLY MAGAZINE

NOTICE TO STOCKHOLDERS—It is the desire of San Joaquin Power that stockholders should receive this magazine without charge. It is assumed that one copy of the magazine will be sufficient for each family. If more than one copy is coming to you or your family, will you kindly notify us so that we may cancel from our lists extra copies not needed.

Address all communications, San Joaquin Power Magazine, Fresno, Calif.

AL C. JOY - - - *Editor and Manager*
SYDNEY W. GREEN - *Associate Editor*

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FINANCING

Money to finance the future developments of San Joaquin Power will come from the great body of average American citizens,—the workers, professional and business people who know the necessity of saving and wish to obtain the best return for their money and adequate safety of principal.

The very rich are no longer greatly interested in investments, the earnings from which are subject to excess Federal Income Tax. Tax-free municipal or government bonds of low yield are snapped up by holders of large capital, leaving the utility stocks to smaller investors.

The earnings from San Joaquin Power stock are exempt from Normal Federal Income Tax only. The investor whose earnings total less than $5,000 per year pays no tax on San Joaquin Power stock. This class of investors is in the great majority and it is from them that money must come for junior financing of improvements, power houses, transmission lines and extensions.

This situation makes it necessary to advertise and develop a large sales force through employees if the stock is to be sold and the growth of the company maintained in advance of demand.

The sale of stock to customers has many advantages over the old system of closed corporations. The customer usually knows something about the company in which he buys his interest. He knows the management, sees the power lines and properties, has before him always visible evidence of its operations, and having purchased stock comes more into contact with the problems and policies of the company.

The management and organization, on the other hand, become more interested in the customer, while his criticisms and suggestions are given courteous consideration and thorough investigation. The customer becomes more than a mere rate payer,—he is a partner and as such is entitled to a voice in the affairs of the company.

A new field for savings and investment also is opened up that is promoting thrift and increasing savings.

Close regulation by state commissions is an additional safeguard that has its appeal to careful investors. State regulation demands careful management and adequate service. Those in control of public utilities are confronted with the problems of first, rendering satisfactory service; next, of providing that service at the lowest possible cost; and last, but not of least importance, of earning a fair rate of return on the money invested in the system. Constant vigilance and economy are necessary in solving these problems. Every dollar going into capital must be a working dollar or the rate of return will fall short. Rates for service must be reasonable or the use of power will diminish. A balance must at all times be maintained between the schedule of rates for service,—the income,—and the rate of return on the money invested,—the earnings.

That San Joaquin Power enjoys the general good will of its thousands of customers is evidenced by the large and growing number of customers who have become stockholders. And as years go on this number will constantly increase, cementing the friendship of the company and customer and stabilizing the industry and the service.

To get the views of the best minds in the electrical industry, Bonright & Company and the American Superpower Corporation are offering prizes totaling $20,000 for the best essays summarizing the progress made and expected to be made in the electrical industry from 1920 to 1930.

Wage Earners Lead As Partners

Occupation Lists of San Joaquin Stockholders Show Investment's Appeal to Thrifty Workers.

SAN Joaquin Power stockholders of common, preferred and prior preferred issues now number 11,500. This number has grown from 500 in 1920, when the Seven Per Cent Prior Preferred issue was offered to customers of the company and the general public. During the past four years more than 10,000 Prior Preferred stockholders have been placed on the lists.

A recent analysis of this list shows that 6,638 or 57.5 per cent own less than five shares each. More than 1,000 San Joaquin Power employees, or 81 per cent, own stock in the company.

Study of occupation lists of stockholders shows the appeal which this investment has to the thrifty person of moderate means, for 60 per cent of San Joaquin customer-owners are wage earners. A partial analysis shows that among them are:

854	mechanics and skilled workers
415	clerks
219	salesmen
164	managers and superintendents
134	school teachers
116	stenographers and typists
1,800	merchants and others not listed in above classifications.
273	farmers
211	professional men.

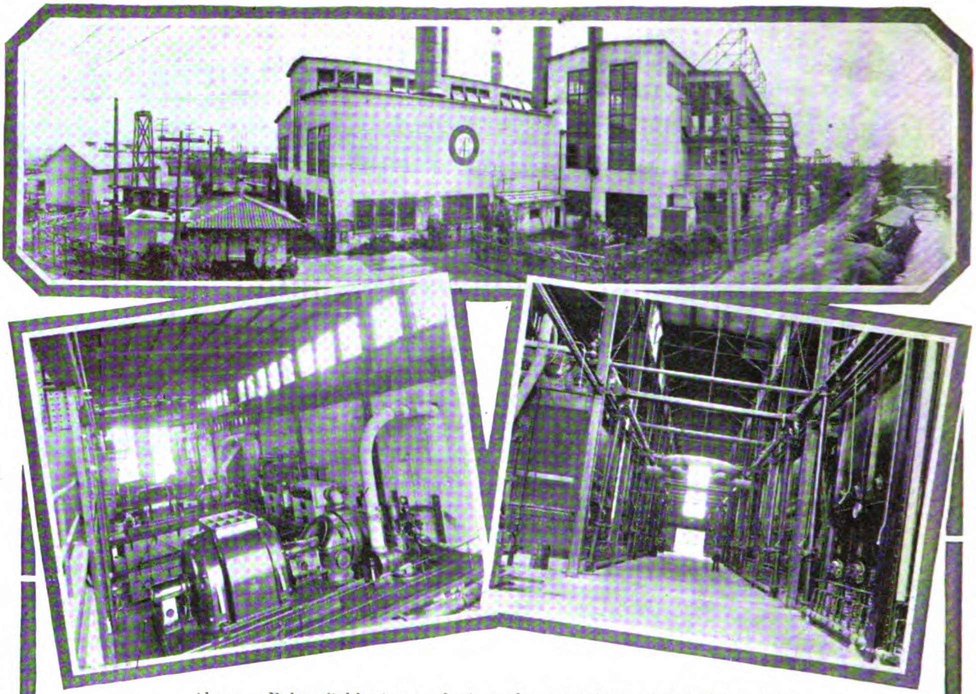
In addition there are 1,156 housewives and 1,037 children who own stock, most of them wives and children of wage earners.

This great army of wage earners consists mostly of customers of the company who know the service, the organization and the territory served. Many know the management or have had personal contact with the company's employees and are familiar with its policies. They are satisfied to place their earnings in this necessary industry serving 70,000 customers.

More than 3,500 sales of stock have been made on a partial payment plan, providing an opportunity to the wage earner to secure a sound investment offering a liberal dividend rate. Not only has there resulted a real contribution to the company's junior financing, but the spirit of thrift has been encouraged, and a better understanding between company and its consumers has developed.

The steady growth of the business and the constant demand for capital to finance necessary extensions offers an investment to thousands of customers who may join the thrift army now well started.

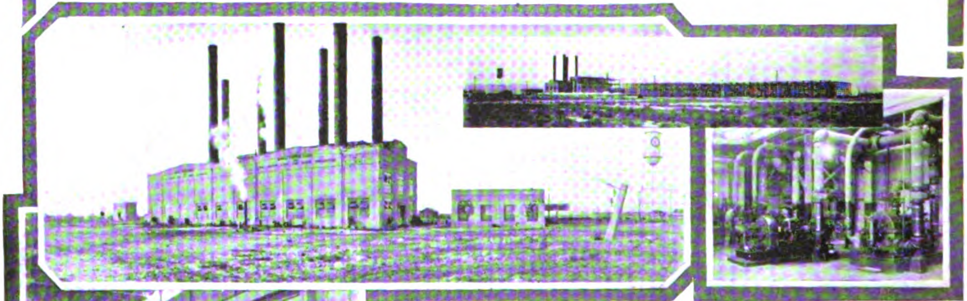
Filling out and mailing dividend checks to San Joaquin Power Stockholders. Another pay day for the wage earner.



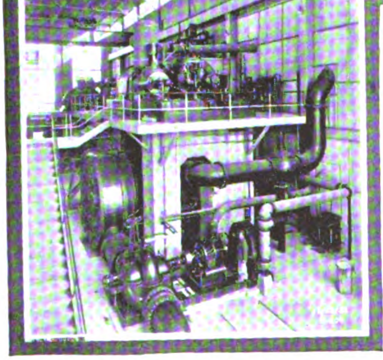
Above.—Bakersfield steam plant, turbo-generators, and boiler room.

Steam

By practically continuous operation of steam plants during the exceptionally dry year of 1924 no curtailment in the use of power on the San Joaquin System was necessary.



Midway steam plant at Buttonwillow, the insert above showing plant and cooling system. To right is a corner of pump room.



Two steam turbo-generators in Midway Steam Plant.

Fourteen operators' cottages at Midway Steam Plant.

Annual Report to Stockholders

Retiring President of San Joaquin Light and Power Corporation Reviews Business Affairs of 1924

TO the Stockholders of San Joaquin Light & Power Corporation:

In submitting to you the following review of the operations and business of the corporation for the year ended December 31, 1924, it is, at the outset, necessary to note that the year just closed was without precedent in the history of electric utilities in this state, by reason of the extreme drought in water supply available for hydroelectric plant operation.

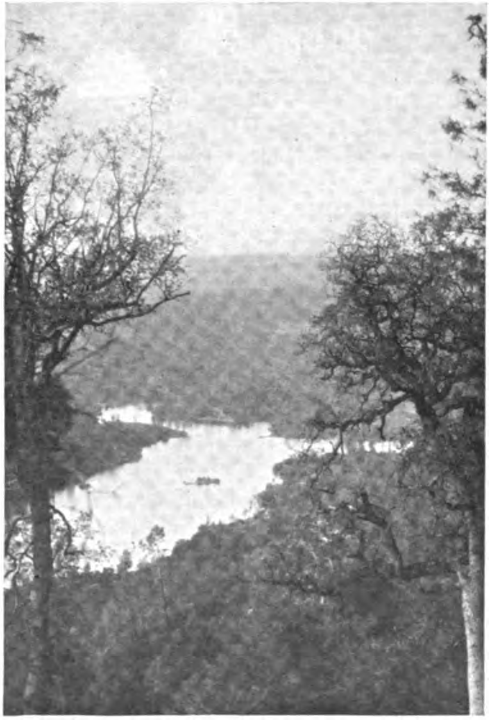
In the winter of 1923 and spring of 1924 the mountain precipitation was less than forty-five per cent of normal, the runoff of streams supplying our power plants only twenty-five per cent of normal and but sixty per cent of the runoff of the driest previous year. Even with the handicap which the company suffered under these conditions, through the purchase of power from the Turlock Irrigation District and other sources and the practically continuous operation of its steam plants, our consumers were served throughout the year without any curtailment. In addition, our system aided materially in relieving the shortage in Southern California through the delivery of our own steam power and by the transmission to the south of power obtained from temporary sources as far north as San Francisco Bay.

PUMPING LOAD INCREASES 51 PER CENT

The dry season resulted in a great increase in load on our system largely from agricultural use, the pumping load being fifty-one per cent greater than the preceding year, arising from new connected load and heavier use of existing installations. Under normal conditions our hydroelectric plants supply eighty-six per cent of the energy required on our system. During the year just passed the full output of our water-power plants was only sufficient to supply thirty-five per cent of the energy demanded of us, and the remainder was supplied through steam generation and purchase. For a period of five months, from June 1 to October 31, our steam plants were operated continuously at ninety-eight per cent of their full load, and the maximum possible use was made of the stored water in Crane Valley reservoir. The amount of stored water at the end of the spring was only 15,000 acre feet this past season, including 6,000 acre feet of carry-over from the previous season, while normally a full reservoir of 50,000 acre feet is available for the summer load.

POWER FROM TURLOCK

In March, 1924, a long term contract was entered into with the Turlock Irrigation District, by which the San Joaquin Corporation will receive not less than 6,500 kilowatts during the summer months and not less than 2,000 kilowatts at other times of the year. While our contractual demand was only 6,500 kilo-



Kerckhoff Lake from a new scenic road constructed last year between Kerckhoff Dam and Power House No. 1.

watts, we received from this source at times as much as 12,000 kilowatts, and corresponding quantities of energy to relieve our own deficiency. During the latter part of the season energy purchases were made from the Alameda municipal plant, the Sugar Pine Lumber Company, Yosemite Lumber Company and Union Sugar Company. Our Betteravia steam plant on the coast was restored to service and aided substantially in this crisis.

ALL POWER DEMANDS ARE MET

In view of the serious situation prevailing and the necessity for actual curtailment in Southern California, a Power Supervisor was placed in charge of the situation by the Railroad Commission in June, 1924, and all of the companies in southern and central California co-operated through his office in obtaining the maximum use of available energy on all systems. Conservation measures were instituted on our own system at a considerable loss of revenue, but at no time was curtailment necessary. The increased pumping requirements of our agricultural consumers, the production of whose crops was dependent upon our service, were met in full, and although the company was put to an additional expense of over a million dollars to meet this condition, no increase was made in rates charged our consumers. In fact, agricultural rates were reduced by seven and a half per cent prior to the beginning of the pumping season. The Power Supervisor's control continued until the middle of November, at which time there was sufficient reduction in load conditions and improvement in power supply due to early rains, to warrant restoring service in Southern California to normal.

Our total output for the year 1924 was 573,821,266 kilowatt hours, an increase of 23½ per cent over 1923. Of this energy produced, 12 per cent or 70,718,008 kilowatt hours, was supplied to the southern part of California to relieve the shortage there.

Every possible step was taken by our management to offset the unusual increases in expense incurred in steam generation and purchased power, and operating costs were kept at a minimum. Retrenchment was effected in every line of the business to the fullest possible extent without affecting service rendered consumers. Nevertheless, all bond interest charges and dividends were met in full, the accumulated surplus which had been built up in past years being drawn upon for a part of these dividends. The necessary financing for the year's construction was provided early in the season, the stock and bonds sold producing funds sufficient to carry construction well along into 1925.

REVENUES

Gross operating revenues of all departments increased during 1924 by $552,571.38, a gain of 8.01 per cent over 1923.

GROSS REVENUES

Year Ended December 31st	1924	1923	Increase or *Decrease*
ELECTRIC LIGHT	$2,241,590.53	$2,106,952.72	$134,637.81
POWER	4,691,756.13	4,282,408.48	409,347.65
TOTAL	6,933,346.66	6,389,361.20	543,985.46
GAS	392,028.40	375,962.70	16,065.70
WATER	28,467.93	28,713.99	*246.06*
RAILWAY	97,081.69	104,315.41	*7,233.72*
TOTAL	$7,450,924.68	$6,898,353.30	$552,571.38

Electric revenues increased 8.51 per cent during the year 1924, while the sales of energy of 464,294,799 kilowatt hours supplied a demand 20 per cent greater than in 1923. Excluding the energy supplied to foreign companies, the revenues from business on our own lines increased 10.73 per cent, while the sales of energy corresponding gained 25 per cent as compared with 1923. Gas revenues improved to the extent of 4 per cent during the year.

There was a slight decline in water revenues due to the abandonment of service in Madera, and street railway receipts dropped off about 7 per cent, which, however, has been offset by fare increases in the fall of 1924. At December 31, 1924, service was being supplied to 70,263 consumers of electricity, water and gas, of which 3,822 were added during the year. The number of consumers, current supplied and revenues have doubled within a period of less than five years.

OPERATING EXPENSES

Operating expenses for the year 1924, as compared with the year 1923, were as follows:

OPERATING EXPENSES

Year Ended December 31st	1924	1923	Increase
OPERATION—			
FUEL	$1,008,167.07	$ 221,903.51	$ 786,263.56
PURCHASED POWER	254,795.36		254,795.36
OTHER OPERATION	785,384.08	742,308.18	43,075.90
TOTAL	2,048,346.51	964,211.69	1,084,134.82
MAINTENACE	528,978.02	390,346.10	138,631.92
COMMERCIAL	293,365.71	255,774.11	37,591.60
GENERAL ADMINISTRATIVE	623,814.25	599,941.40	23,872.85
TAXES AND LICENSES	721,373.94	657,502.91	63,871.03
INSURANCE AND CASUALTY	76,567.02	70,268.18	6,298.84
UNCOLLECTABLE ACCOUNTS	28,500.00	16,500.00	12,000.00
TOTAL OPERATING EXPENSES	$4,320,945.45	$2,954,544.39	$1,366,401.06

The increase in operating expenses during the year is accounted for largely in the extraordinary expense for fuel used in the operation of steam power plants and purchased power, all of which are directly attributable to the dry season. Heavy maintenance expenditures were necessary during the year to reconstruct our older transmission and distribution lines to conform to the new State law. Aside from these items, the increased expense incurred in normal operation is proportionately less than would be expected from the increased volume of business served.

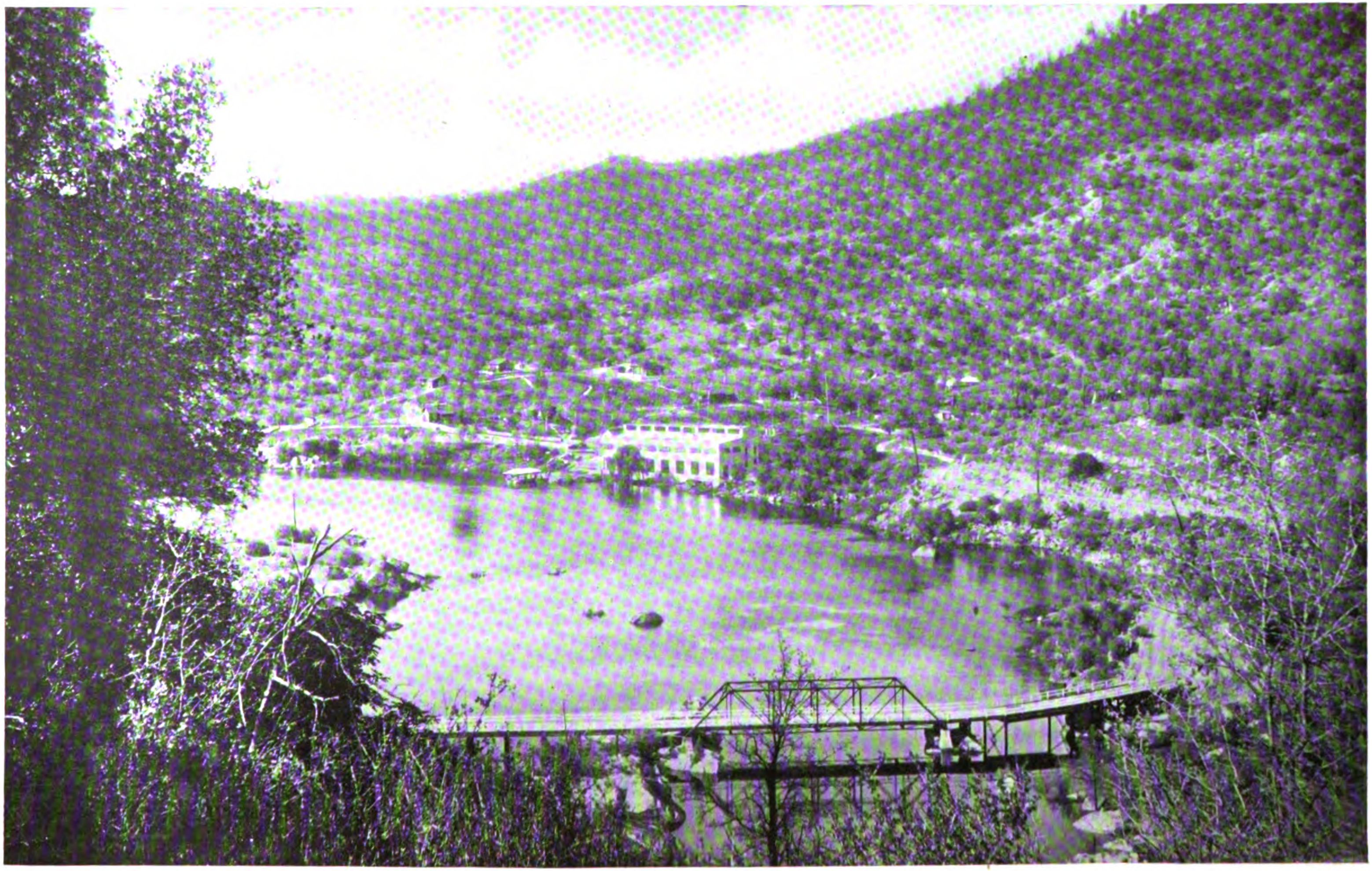
Taxes during the year amounted to $721,373.94, and reflect the collection on our part of 9.68 cents out of every dollar paid by our consumers for the support of State and Federal government. During 1923 every dollar of gross revenue carried 9.53 cents in taxes. Practically 58 per cent of our gross revenues was absorbed in operating expenses, representing a cost of serving the public of more than $1,000,000 above normal, the entire burden of which was carried by the corporation.

NET INCOME AND SURPLUS

Interest and other fixed charges increased $247,871.30, or 13.77 per cent of the preceding year's net interest charges, a large block of bonds having been sold early in the year to meet the current construction program and to carry through into 1925 until improved earnings would permit additional financing.

Depreciation amounting to $878,191.72 was set up out of income, being an increase of $47,694.59 over the preceding year, made necessary by the general growth of the system and to meet replacements.

The net surplus earned for the year was $333,992.86. Dividends were paid at the rate of 7 per cent on prior preferred stock and on Series A preferred stock, and at the rate of 6 per cent on the remaining Series B preferred stock not converted. In addition to these dividends, surplus was drawn upon to the extent of $292,500 for the payment of the special dividend of $4.50 per share in connection with the reclassification of preferred stock. The unusually heavy drains upon surplus resulting from increased operating expenses and these special dividends reduced the surplus of the corporation at December 31,



No. 1 Power House at the head of Kerckhoff Lake presents a picture of rare beauty as the motorist swings around the road into the San Joaquin River canyon.

1924, to $2,290,360.66. The past policy of the company in building up its surplus through the retention of earnings in the business enabled it to meet all of its charges in the most critical year in its history, and reflects the propriety of such conservation of net earnings.

PLANTS AND PROPERTIES

Capital expenditures for the year 1924 amounted to $2,349,538.67, as compared with $4,581,006.55 for the year 1923. Only necessary additional facilities to connect new business and maintain service were constructed during the year.

In May 1924, a new extension rule was filed with the Railroad Commission, through the operation of which a more liberal policy of extending lines was inaugurated, and the procedure affecting advances by consumers as part payment for lines subject to subsequent refund was greatly simplified.

The properties continue to be maintained in the best possible condition, as will be noted from the fact that more than 19 per cent of the gross revenues received during the year were expended for repairs and in providing for current replacements and future depreciation.

Bonds Issued during the year were:	Par Value
S. J. L. & P. Corp. Unifying & Refunding 6% Series B—1952	$2,500,000
S. J. L. & P. Corp. Unifying & Refunding 6% Series C—1954	1,500,000
Total Bonds Issued	$4,000,000
Bonds Retired during the year were:	
S. J. L. & P. Corp. Unifying & Refunding 7% Series 1924	400,000
S. J. L. & P. Company 5% First Mortgage	48,000
Total Bonds Retired	448,000
Net Increase in Bonds Outstanding during 1924	$ 3,552,000
Total Bonds Outstanding December 31, 1924	$35,975,000

CURRENT ASSETS AND LIABILITIES

Net current assets at December 31, 1924, amounted to $5,113,068.74, which reflects an improvement of $1,787,120.86 over the value of net current assets at the beginning of the year. This was brought about through the bond financing early in the year, which substantially improved the company's cash position, and through the reductions effected in material and supplies and consumers accounts receivable, both of which were subject to careful supervision. A considerable stock of poles, transformers and line materials were carried over from the preceding year, thus reducing the amount of necessary purchases for current installations.

FINANCING

As approved at the last annual meeting of stockholders, the then outstanding issue of 6 per cent preferred stock was reclassified into 7 per cent preferred stock, the conversion being effective upon the payment of $4.50 per share in lieu of all previous unpaid dividends thereon. There now remains outstanding but $75,800.00 par value of Class B 6 per cent preferred stock, the remaining portion of the $6,500,000.00 issue having been converted.

Prior preferred stock to the amount of $1,453,100.00 par value was sold during the year, in addition to which there were in process of payment at the close of the year, subscriptions to this issue in the amount of $478,200.00 par value.

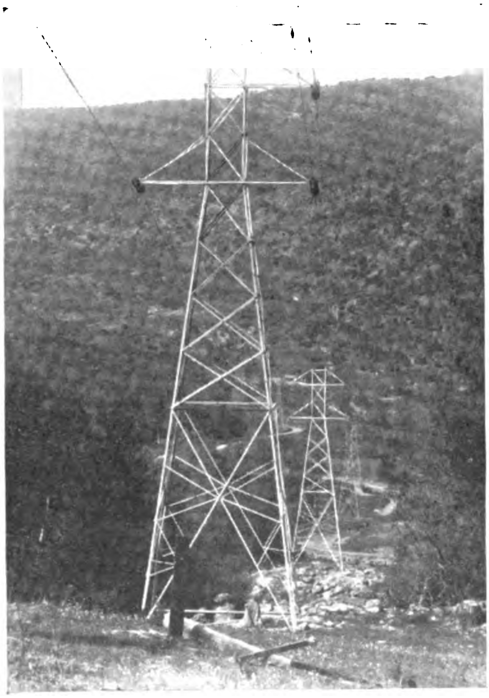
The sale of bonds and prior preferred stock during 1924, as already noted above, not only provided for all capital expenditures during the year but left a balance aggregating more than $1,500,000 available for capital purposes during 1925.

DISTRIBUTION OF SECURITIES

The sale of the $4,000,000 par value of bonds and $1,453,100 par value of prior preferred stock, above referred to, added many new bondholders and 1,062 new stockholders during the year 1924. At the close of the year, the company's bonds were held by 10,336 investors, and customer ownership through the medium of prior preferred stock is now exercised by 11,502 stockholders. More than 60 per cent of the company's stockholders are residents within the territory served, and more than 95 per cent within the State of California. The extent of small holdings is evidenced by the fact that at the close of 1924, 58 per cent owned less than five shares each. A very interesting fact in connection with the ownership of stock is evidenced by an analysis of the occupations of the company's stockholders, which shows that 60 per cent of our stockholders are in the wage earning class and look upon this stock as a secure means of building up their savings.

RESERVES

Reserves for depreciation, casualty and other purposes aggregated $4,532,017.07 at December 31, 1924. A large proportion of the year's accruals for depreciation was absorbed in the write-off of property, so that the company's accounts are practically cleared of suspense adjustments affecting capital.



Steel towers now replace the former wooden pole line between Power House No. 1 and Coppermine substation.

DEVELOPMENT

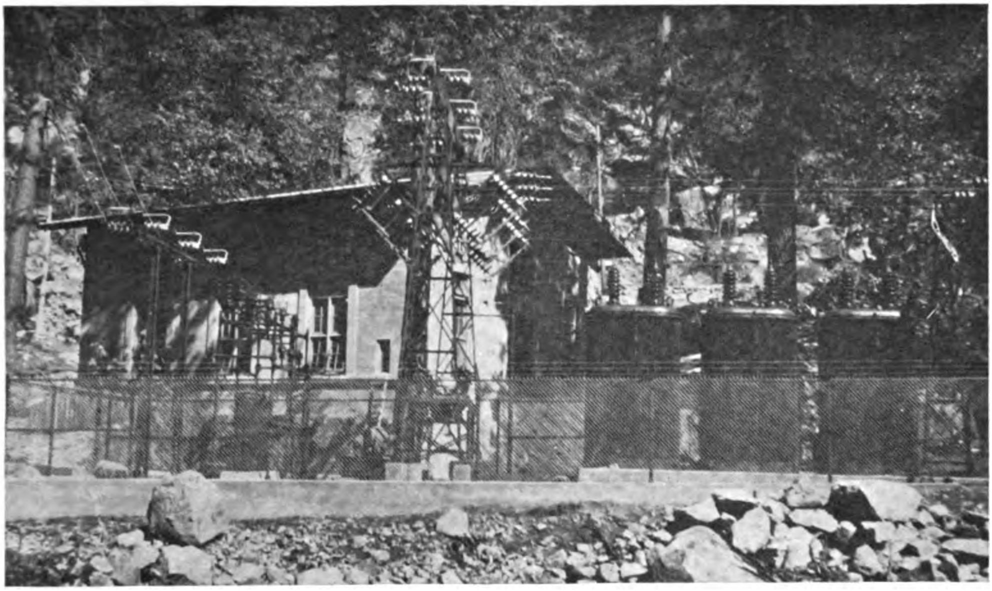
Although new construction was held down to a minimum during the year 1924, substantial improvements of a minor character tending toward increased output of generating facilities and improved service have been made, in addition to the current construction to supply new business. The water conduits at the lower end of the Crane Valley system were enlarged to a size sufficient to utilize more of the water supply of this part of the system. The forebay at No. 1 Power House was dredged and enlarged, providing additional peak capacity, and the size of several flumes on this system simultaneously increased. New cooling towers were installed at the Bakersfield steam plant producing increased output and higher efficiency of steam generation, with consequent savings of fuel during the past season when the steam plants were called upon for their full capacity.

On the Kings River Project additional development work was conducted and 11 miles of new road constructed, leaving but 4 miles of additional highway to reach the Wishon dam site. Engineering plans for this development have been continuously under way during the year and are in a matured state.

No additional power plants were constructed during the year, as the contract with the Turlock Irrigation District, above referred to, added an important source of power supply without any additional capital investment and at a cost comparable with generation in our own plants. Arrangements were also carried out for connection with the United States government plant in Yosemite National Park, from which source power is at times available. The Merced Irrigation District is proceeding rapidly with the construction of its Exchequer dam and power plant, the entire output of which, through the long term contract entered into between this company and the District, will probably become available in the summer of 1926.

NEW TRANSMISSION LINE

The new steel tower transmission line was constructed between Copper Mine substation and San Joaquin No. 1 Power



Through a new 2,000 horsepower substation, exchange of power between Yosemite National Park hydroelectric plant and San Joaquin Power has been made effective.

House, replacing the former wooden pole line which was built in 1896. This substantially reinforces a very important feeder and will improve the flexibility of operation. New transmission lines were also constructed to connect with the plant of the Turlock Irrigation District, the Yosemite National Park and the Merced Irrigation District's plant at Exchequer, besides the usual current improvements in existing lines throughout the system.

SUBSTATION IMPROVEMENTS

Two new substations were constructed and other substations enlarged, adding 6,600 KVA of transformer capacity during the year, all of which was necessary to supply increased load. An additional zone substation was constructed in Fresno, making a total of three such substations for local concentrated load. These have improved the service and reduced expense by reason of their automatic operation. The large volume of new business connected required the construction of 379 miles of new transmission and distribution lines and the reinforcement of existing lines and feeders.

MAIN OFFICE PROVES EFFICIENT

The company's new ten-story office building in Fresno was completed and occupied in February, 1924, and its arrangements and facilities have not only added to the efficiency of operations and service to the public, but have made possible actual reductions in pay roll. The pole treating plant was moved from its former remote location to the new general industrial yards where all activities affecting material and supplies are concentrated. New general warehouses were completed at Fresno and Bakersfield, providing greater dispatch in the handling of supplies.

The gas business of the company at the close of 1924 supplied 9,025 consumers, and during the year ten miles of new mains were laid in Bakersfield, Merced and Selma. The new gas holders installed in Selma and Merced have resulted in improved service to consumers and more uniform operating conditions at these generating plants.

Service was abandoned at the Madera water works when the number of consumers was gradually reduced to less than fifty, and all of the Madera water properties have been written off.

The railway properties at Bakersfield, although showing a decline in traffic, will improve in earnings as a result of increased fares now in effect.

MIDLAND COUNTIES' GROWTH HEALTHY

The energy supplied to the Midland Counties Public Service Corporation, amounting to 13 per cent of our total sales for the year 1924, reflects an increase in load on that system of 20 per cent more than 1923. This is in part due to the recovery of oil fields operations during 1924, but more largely to new consumers of all kinds. This is by far the most important load supplied wholesale by the San Joaquin Company, and all conditions point to a continued increase in its requirements.

The construction budget for 1925 calls for an expenditure of three million dollars for new substations, transmission and distribution lines to serve new consumers and general improvements in all departments of the business.

GENERAL

Present facilities of the company include eleven hydroelectric and three steam plants with an installed capacity of 187,533 horsepower, forty-five substations with transformer installations aggregating 183,000 kilowatts, and 5,908 miles of transmission and distribution lines, two manufacturing gas plants and natural gas supply serving three growing communities through systems covering 158 miles of mains. Water service and street railway transportation are supplied in Selma and Bakersfield, respectively.

The construction budget for 1925, above referred to, provides for all facilities to supply new business and, as also referred to above, against these expenditures there is a large balance of funds now on hand and carried over from financing early in 1924. This, supplemented by the proceeds of the sale of prior preferred stock for which there is a continued demand both within and without the territory served, will supply the funds to carry out the 1925 construction program.

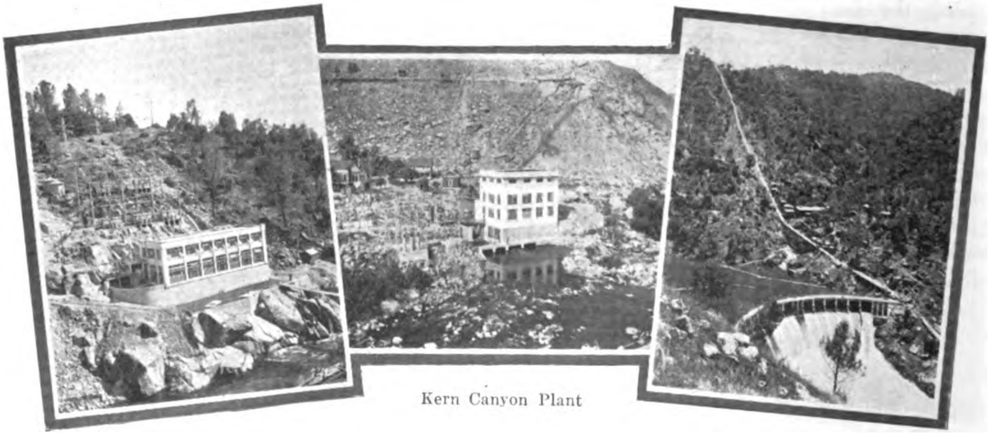
The Water and Power Act, which was submitted to a vote of the people for the second time in November 1924, was again defeated by a larger majority than at the previous election.

ECONOMIC CONDITIONS IMPROVING

The year 1925 should show a return to normalcy in the economic conditions of our territory and in the water supply for power generation. Land development and settlement is becoming more active and large acreages of cotton and diversified crops are being planted throughout the San Joaquin Valley.

After several months' negotiations, the purchase by the Western Power Corporation of New York of the controlling majority of preferred and common stock of the San Joaquin Light & Power Corporation and all of the common stock of the Midland Counties Public Service Corporation and of the Fresno City Water Corporation was consummated on January 6, 1925. The company will continue under the same management and policies in rendering the best possible service to the public and in the development of the natural resources of the territory for the benefit of its customers.

Respectfully submitted,
Wm. G. Kerckhoff, *President.*



Kerckhoff Power House

Kern Canyon Plant

Kerckhoff Dam

Income Account

A Statement of the Income and Expenses of the Company
For the Twelve Months Ended December 31, 1924

GROSS OPERATING REVENUE	$7,450,924.68
This is the amount paid by or billed to consumers for electric, gas, water and railway service.	
OPERATING EXPENSES	4,320,945.45
These are the expenditures for wages, fuel and materials used in the operation of the properties, for repairs, administration and taxes, and amounts reserved for insurance and uncollectable accounts.	
NET EARNINGS FROM OPERATION	3,129,979.23
This is the amount remaining from operation of the properties for the payment of other charges.	
SUNDRY EARNINGS	130,375.74
This represents the income aside from operative earnings, such as interest on investments or loans, and profits on the sale of merchandise.	
TOTAL NET INCOME	3,260,354.97
The sum of the last two items is the amount from which interest, dividends and other charges must be paid.	
BOND INTEREST	2,124,752.00
INTEREST ON FLOATING DEBT	6,014.08
	2,130,766.08
LESS INTEREST CHARGED TO CAPITAL	180,204.44
NET INTEREST DEDUCTIONS	1,950,561.64
This is the amount required to pay interest on bonds, notes and other indebtedness, except interest charged to plant under construction.	
BOND DISCOUNT EXPENSE	97,608.75
This provides for the payment of the difference between the par value of bonds and the price for which sold.	
TOTAL DEDUCTIONS FROM NET INCOME	2,048,170.39
NET PROFIT BEFORE CHARGING DEPRECIATION	1,212,184.58
DEPRECIATION	878,191.72
This amount is set aside for the year to cover the wearing out of the plants and properties.	
NET SURPLUS FROM OPERATION	$ 333,992.86
The company had this amount remaining from its revenues after paying operating expenses, interest charges and depreciation.	

BALANCE SHEET

Assets

A Statement of What the Company Owns at December 31, 1924

RIGHTS, REAL ESTATE, PLANTS AND PROPERTIES This is the amount at which the properties and rights constituting the fixed or permanent belongings of the company are carried on its books.	$60,611,559.14
INVESTMENTS The value of the company's investments other than in its system.	255,517.29
REACQUIRED SECURITIES Bonds of the company in its treasury.	109,727.50
SUBSCRIBERS TO CAPITAL STOCK The amounts owing to the company by subscribers of stock on the partial payment plan.	237,731.41
CURRENT ASSETS— These are amounts belonging to or due the company, which vary from time to time according to running requirements of the business. They are divided into:	
CASH Money in the company's possession or in banks on deposit.	3,729,563.68
NOTES RECEIVABLE Money due the company secured by notes.	616,974.57
ACCOUNTS RECEIVABLE Money due from customers and others, representing bills rendered.	931,369.08
MARKETABLE SECURITIES Government bonds and other readily negotiable securities.	10,000.00
MATERIAL AND SUPPLIES Poles, wire, pipe and materials of all kinds purchased and held in stock for use in the construction of new facilities and in operating the business.	1,321,481.84
MISCELLANEOUS CURRENT ASSETS	17,494.23
TOTAL CURRENT ASSETS	6,626,883.40
SINKING FUND Bonds and cash on deposit with trustees under mortgages.	404,157.14
DEFERRED CHARGES Payments in advance for taxes, insurance and the like. Also the amount of discount on bonds issued by the company which is in process of being written off.	1,957,038.97
DISCOUNT ON CAPITAL STOCK The difference between par value of stock outstanding and cash received from its sale.	1,710,238.00
TOTAL ASSETS Total of everything owned by the company at the dates shown.	$71,912,852.85

BALANCE SHEET

Liabilities

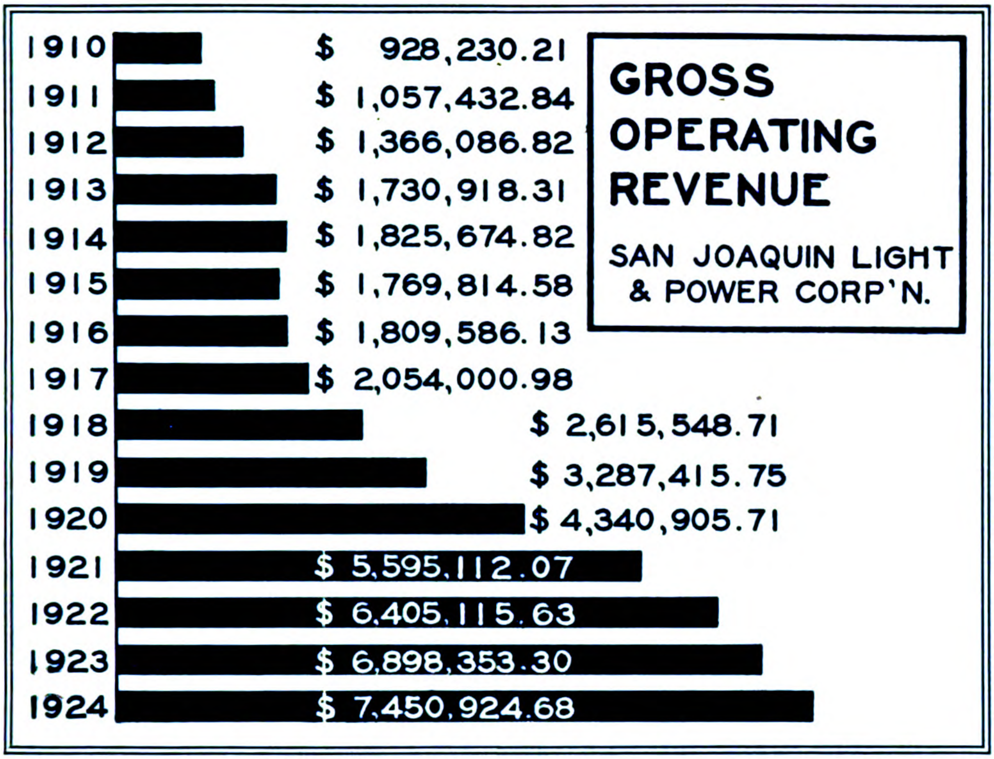
A Statement of What the Company Owes at December 31, 1924

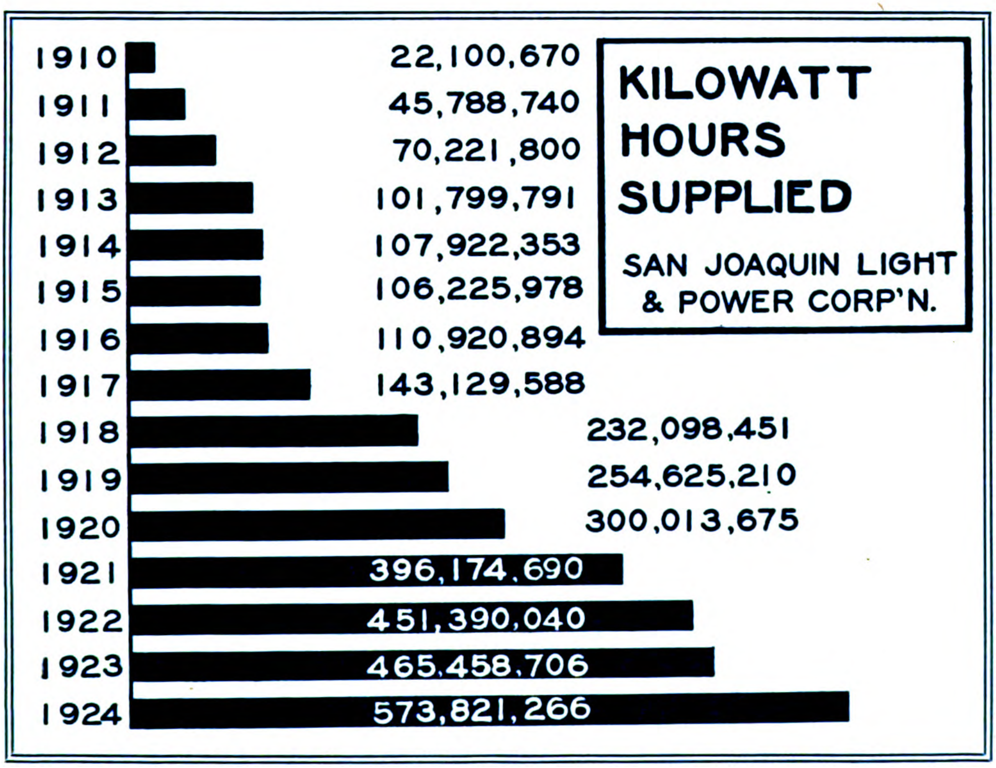
STOCK—	
The par value of the shares of stock in the possession of the company's 11,502 stockholders. This is divided into:	
PRIOR PREFERRED 7% CUMULATIVE, AUTHORIZED, $75,000,000.00, ISSUED	$9,019,800.00
SERIES "A" PREFERRED 7% CUMULATIVE, AUTHORIZED, $18,500,000.00, ISSUED	6,424,200.00
SERIES "B" PREFERRED 6% CUMULATIVE, AUTHORIZED, $6,500,000.00, ISSUED	75,800.00
COMMON, AUTHORIZED, $50,000,000.00, ISSUED	11,000,000.00
BONDS	35,975,000.00
The amount for which the company's properties are mortgaged. Each mortgage is divided up into small units known as bonds. There were 10,336 bondholders at December 31, 1924.	
CAPITAL STOCK SUBSCRIPTIONS	478,200.00
The par value of stock subscribed for on partial payment plan.	
TOTAL CAPITAL LIABILITIES	62,973,000.00
CURRENT LIABILITIES—	
The obligations of the company which are variable in amount from time to time and in process of payment. These are classified as:	
BOND INTEREST AND OTHER ACCRUALS	986,119.93
The proportionate amount of interest on bonds and other indebtedness, taxes and sinking fund, charged against operations to date, but not yet due.	
ACCOUNTS PAYABLE	447,601.41
Bills rendered for supplies and other items of expense not yet paid by the company.	
CONSUMERS' DEPOSITS	80,093.32
Money due consumers, deposited as security for payment of bills.	
TOTAL CURRENT LIABILITIES	1,513,814.66
CONSUMERS' ADVANCES FOR CONSTRUCTION	247,391.17
Money to be paid back to consumers for their line extensions.	
RESERVES	4,532,017.07
The amounts accumulated from year to year to provide for depreciation, insurance, casualties, bad debts and other losses.	
CAPITAL SURPLUS	356,269.29
SURPLUS CLOSE OF YEAR	2,290,360.66
The excess of the company's assets over its liabilities accumulated over a period of years from earnings not paid out in dividends. This amount is re-invested in the business.	
TOTAL SURPLUS AND RESERVES	7,178,647.02
TOTAL LIABILITIES	$71,912,852.85
The total amount owed by the company at the dates shown.	

San Joaquin Light & Power Corporation

A Few Statistics as of December 31, 1924

1,658	employees in all departments—operating and construction.
21,838	bondholders and stockholders.
34,945	square miles in which company operates.
10	counties in Central California served—Mariposa, Merced, Madera, Fresno, Kings, Tulare, Kern, Monterey, San Luis Obispo, Santa Barbara—with a population of 400,000.
70,263	gas, water and electric consumers.
115,467	horsepower developed in 11 hydro-electric plants.
72,066	horsepower developed in 3 steam plants.
187,533	horsepower developed in 14 plants.
573,821,266	kilowatt hours total output of system in 12 months ended December 31, 1924.
643,422,200	cubic feet of natural and manufactured gas sold in three cities during 12 months of 1924.
5,908	miles of electric transmission and distribution lines.
158	miles of main used in distribution of gas.
19	miles of main used in distribution of water.
2	cities supplied with power for electric railways.
16,315,100,000	gallons storage capacity for water used in generating electricity.
8,712,089,500	cubic feet of natural gas and 722 barrels of oil used in generating electricity during 12 months ended December 31, 1924.
74,759	horsepower of agricultural motors depending on San Joaquin Power, irrigating 450,462 acres of land.
57,472	horsepower of industrial motors operated by San Joaquin Power.
20,278	horsepower of oil well motors operated by San Joaquin Power.
2,625	horsepower of municipal power served by San Joaquin Power.
269,010	horsepower total connected load.
$2,542,888.65	wages paid employees in 1924.
$721,373.94	taxes paid in 1924.


GROSS OPERATING REVENUE
SAN JOAQUIN LIGHT & POWER CORP'N.
1910 $ 928,230.21
1911 $ 1,057,432.84
1912 $ 1,366,086.82
1913 $ 1,730,918.31
1914 $ 1,825,674.82
1915 $ 1,769,814.58
1916 $ 1,809,586.13
1917 $ 2,054,000.98
1918 $ 2,615,548.71
1919 $ 3,287,415.75
1920 $ 4,340,905.71
1921 $ 5,595,112.07
1922 $ 6,405,115.63
1923 $ 6,898,353.30
1924 $ 7,450,924.68


KILOWATT HOURS SUPPLIED
SAN JOAQUIN LIGHT & POWER CORP'N.
1910 22,100,670
1911 45,788,740
1912 70,221,800
1913 101,799,791
1914 107,922,353
1915 106,225,978
1916 110,920,894
1917 143,129,588
1918 232,098,451
1919 254,625,210
1920 300,013,675
1921 396,174,690
1922 451,390,040
1923 465,458,706
1924 573,821,266

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Wage Earners Predominate

The largest percentage of San Joaquin Power stockholders is composed of workers each owning five shares or less.

STOCKHOLDERS	PER CENT	OWN
6,638	57.7	Less than five shares
1,224	10.7	5 to 9 shares
1,717	14.9	10 to 19 shares
1,186	10.3	20 to 49 shares
425	3.7	50 to 99 shares
312	2.7	100 shares or more
11,502	100.0	

The number of San Joaquin Power stockholders has increased from 500 in 1920 to 11,500 in 1925. Of this number 1,000 are San Joaquin employees.

SAN JOAQUIN LIGHT & POWER CORPORATION

A. G. Wishon, *President*